

four, and in all other properties so far as my observation reaches, and therefore are deservedly reputed of the same Nature and Constitution, and by consequence the one is compounded as well as the other. But after the most Refrangible Rays begin to be totally reflected, and thereby separated out of the emergent Light MO , that Light changes its Colour from white to a dilute and faint yellow, a pretty good orange, a very full red successively and then totally vanishes. For after the most Refrangible Rays which paint the Paper at P with a Purple Colour, are by a total reflexion taken out of the Beam of light MO , the rest of the Colours which appear on the Paper at R and T being mixed in the light MO compound there a faint yellow, and after the blue and part of the green which appear on the Paper between P and R are taken away, the rest which appear between R and T (that is the Yellow, Orange, Red and a little Green) being mixed in the Beam MO compound there an Orange; and when all the Rays are by reflexion taken out of the Beam MO , except the least Refrangible, which at T appear of a full Red, their Colour is the same in that Beam MO as afterwards at T , the Refraction of the Prism HJK serving only to separate the differently Refrangible Rays, without making any alteration in their Colours, as shall be more fully proved hereafter. All which confirms as well the first Proposition as the second.

Scholium. If this Experiment and the former be conjoined and made one, by applying a fourth Prism VXY to refract the reflected Beam MN towards tp , the conclusion will be clearer. For then the light Np which in the 4th Prism is more refracted, will become fuller and stronger when the Light OP , which in the third Prism HJK is more refracted, vanishes at P ; and afterwards when the less refracted

refracted Light OT vanishes at T , the less refracted Light Nt will become encreased whilst the more refracted Light at p receives no further encrease. And as the trajected Beam MO in vanishing is always of such a Colour as ought to result from the mixture of the Colours which fall upon the Paper PT , so is the reflected Beam MN always of such a Colour as ought to result from the mixture of the Colours which fall upon the Paper pt . For when the most refrangible Rays are by a total Reflexion taken out of the Beam MO , and leave that Beam of an Orange Colour, the excess of those Rays in the reflected Light, does not only make the Violet, Indigo and Blue at p more full, but also makes the Beam MN change from the yellowish Colour of the Sun's Light, to a pale white inclining to blue, and afterward recover its yellowish Colour again, so soon as all the rest of the transmitted light MOT is reflected.

Now seeing that in all this variety of Experiments, whether the trial be made in Light reflected, and that either from natural Bodies, as in the first and second Experiment, or Specular, as in the Ninth; or in Light refracted, and that either before the unequally refracted Rays are by diverging separated from one another, and losing their whiteness which they have altogether, appear severally of several Colours, as in the fifth Experiment; or after they are separated from one another, and appear Coloured as in the sixth, seventh, and eighth Experiments; or in Light trajected through Parallel superficies, destroying each others Effects as in the 10th Experiment; there are always found Rays, which at equal Incidences on the same Medium suffer unequal Refractions, and that without any splitting or dilating of single Rays, or contingency in the inequality of the Refractions, as is proved in the fifth and sixth Experiments;